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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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11/20/2003

James A. Proctor JR.

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EXAMINER

CHO, UN C

ART UNIT

PAPER NUMBER

2617

NOTIFICATION DATE

DELIVERY MODE

07/30/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/717,995	Applicant(s) PROCTOR ET AL.	
	Examiner UN C. CHO	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 February 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 30-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 30-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>2/18/2010, 4/14/2010, 5/5/2010, 6/7/2010</u> . | 6) <input type="checkbox"/> Other: _____ |

Response to Arguments

1. Applicant's arguments filed 2/24/2010 have been fully considered but they are not persuasive.

In response to applicant's arguments that the combination of Ariyoshi and Chen, specifically Ariyoshi fails to teach "determining a gross timing offset with respect to reverse link channels from other field units sharing the same reverse link logical channel". The examiner respectfully disagrees.

Ariyoshi clearly teaches that at the base station it is possible to synchronize the phase of a received signal from any terminal stations with each other, moreover, the base station uses the phase of a transmitting signal from a terminal station as the *reference phase* to control the phases of transmitting signals from other terminal stations (Page 4, Paragraphs 0058 and 0061). Ariyoshi does not specifically recite the term 'determining a gross timing offset', however, it would have been obvious to one of ordinary skill in the art to recognize that the term phase refers to timing and the applicant's specification supports that on page 22 line 4 where it recites that "the reverse link signal is in phase (i.e., time aligned)". Therefore, taking a reference phase to control the phases of the transmitting signals from other terminal stations, as taught by Ariyoshi, reads on the claim.

It has been shown above that the combination of Ariyoshi and Chen clearly teach the limitations of claim 30, therefore, the rejection of the dependent claims 31 – 38 are deemed proper.

Information Disclosure Statement

2. The information disclosure statement filed 2/18/2010, 4/14/2010, 5/5/2010 and 6/7/2010 fail to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 30, 31 and 33 – 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ariyoshi et al. (US 2003/0214932 A1) in view of Chen et al. (US 2005/0054366 A1).

Regarding claim 30, Ariyoshi discloses receiving a reverse link signal from a field unit (a base station 401 receives a signal corresponding to a terminal station) (see abstract); determining a gross timing offset with respect to reverse link channels from other field units sharing the same reverse link logical channel (the base station receives a transmitting signal from a terminal station and uses the phase of the transmitting

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signal from the terminal as the reference phase to control the phases of transmitting signals from other terminal stations; Page 4, Paragraphs 0058 – 0062).

However, Ariyoshi does not specifically disclose calculating a metric associated with the received reverse link signal; and selectively determining based on said metric whether said base station should control the alignment of said field unit. In an analogous art, Chen discloses selectively determining based on said metric whether said base station should control the alignment of said field unit (a power control processor (Fig. 1, element 12) uses the reverse link quality measurement in determining the correct power control command and determines whether said base station should control the alignment of the mobile station based on the power control command received from the mobile station; Page 6, Paragraph 0068). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the technique of Chen to the system of Ariyoshi in order to provide an improved method for controlling the transmission power in a plurality of base stations simultaneously communicating with a mobile station in soft handoff.

Regarding claim 31, Chen discloses transmitting a message to other base stations whether said base station is going to control the alignment of said field unit (the base station controller (Fig. 1, element 2) receives the power control commands from base stations (Fig. 1, elements 4 and 6) and once the power control processor determines the correct power control command it is routed back to the base stations (Fig. 1, elements 4 and 6) accordingly; Page 6, Paragraph 0066).

Regarding claim 33, Ariyoshi teaches causing said reverse link signal to be orthogonally aligned with the signals from said at least one other field unit on the reverse link logical channel (the base station receives a transmitting signal from a terminal station and uses the phase of the transmitting signal from the terminal as the reference phase to control the phases of transmitting signals from other terminal stations; Page 4, Paragraphs 0058 – 0062).

Regarding claim 34, Chen discloses determining a power level of the reverse link signal (Page 6, Paragraph 0068); and providing feedback of the power level to the field unit in the form of a power command or a power message (transmits the power control command to the appropriate base station so that the power control command gets to the mobile station (Page 6, Paragraphs 0065 – 0067).

Regarding claim 35, Chen discloses wherein said base station does not control the alignment of said field unit (the base station forwards the power control command to the power control processor (Fig. 1, element 12) and that is where the correct power control command is generated and fed back to the base stations and ultimately to the mobile station; Page 6, Paragraph 0066).

Regarding claim 36, Chen discloses a power control processor (Fig. 1, element 12) that transmits the power control command to the appropriate base station so that the power control command gets to the mobile station (Page 6, Paragraph 0065). Chen does not specifically disclose transmitting a message to other base stations that said base station is not going to control the alignment of said field unit. However, it would have been obvious to one of ordinary skill in the art to understand that if one of the base

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stations does not receive the power control command from the power control processor then the base station that did not receive will not control the alignment of said field unit.

5. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ariyoshi in view of Chen as applied to claim 30 above, and further in view of Kim et al. (US 6,470,001 B1).

Regarding claim 32, the combination of Ariyoshi and Chen does not specifically reporting said timing offset in the form of a timing command. In an analogous art, Kim teaches reporting said timing offset in the form of a timing command (the base station calculates a time alignment value and transmits time alignment parameters to the terminal; Col. 5, lines 19 – 26). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the technique of Kim to the modified system of Ariyoshi and Chen in order to provide an efficient method and apparatus for time alignment of a reverse link transmission during data transmission in a base station of a CDMA mobile communication system.

4. Claims 37 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ariyoshi in view of Chen as applied to claim 36 above, and further in view of Savolainen (US 6,438,377 B1).

Regarding claim 37, the combination of Ariyoshi and Chen does not specifically disclose wherein said determination of said base station not to control said alignment is based on at least one of the following criteria: (a) a metric of the transmission path

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between the field unit and at least one of the other base stations exceeds a threshold for a predetermined time span, (b) a metric of the transmission path between the field unit and at least one of the other base stations exceeds a threshold relative to a metric of a transmission path between said base station and the field unit for a predetermined time span, (c) a metric of the transmission path between said base station and the field unit drops below an absolute metric, and (d) a metric of the transmission path between at least one of the other base stations and the field unit exceeds an absolute metric. In an analogous art, Savolainen discloses wherein a metric of the transmission path between said base station and the field unit drops below an absolute metric (Col. 5, lines 1 – 42). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the technique of Savolainen to the modified system of Ariyoshi and Chen in order to provide an efficient and reliable handover to the best neighboring cell while the number of handovers is minimized.

Regarding claim 38, Chen discloses wherein the metric includes at least one of the following: (a) power, (b) signal-to-noise ratio (SNR), (c) variance of the power, (d) variance of the SNR, (e) between the orthogonally aligned path and non-orthogonally aligned paths between the given field unit and said base station and said other base stations, relative ratio of the (i) power, (ii) SNR, (iii) variance of the power, or (iv) variance of the SNR, (f) bit error rate, and (g) energy per chip divided by the interference density (E_c/I_o) (Page 6, Paragraph 0066 and Paragraph 0068).

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to UN C. CHO whose telephone number is (571)272-7919. The examiner can normally be reached on 9:00AM - 6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Eng can be reached on 571-272-7495. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/UN C. CHO/

Primary Examiner, Art Unit 2617